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WTC Technical Information Repository  
Attention: Mr. Stephen Cauffman  
National Institute of Standards and Technology  
Stop 8610  
Gaithersburg, MD 20899-8610

RE: Public Comment

Dear Mr. Cauffman,

Please include the enclosed comments into the body of public comments to be considered in revising the current draft of the WTC Investigation reports.

NIST has produced an overwhelming body of data related to the WTC building collapses. Although the investigation has been thorough, I have noticed several issues that have not yet reached full resolution. I very much look forward to the release of the final version of the reports with these and other unresolved issues addressed.

Regards,  
Eric Douglas

Email to follow.



REPORT	CHAPTER	PAGE	PARAGRAPH/ TABLE/ FIGURE	SECTION	QUESTION	
NIST NCSTAR 1-1						
		8	124	5	8.5.3	
		10	166	2	10.4.8	
		12	177	1	12.3	
		12	177	5	12.3	
NIST NCSTAR 1-2						
	EXEC. SUM	xlx	1	E.3.2	WHAT WAS THE PURPOSE OF THE WIND TUNNEL TEST PERFORMED BY CPP AND RWDI? ARE THE RESULTS OF THESE TESTS AVAILABLE?	
	EXEC. SUM	lxx	2	E.5.3	COMPONENT IMPACT ANALYSIS CONCLUDED THAT THE POST-PENETRATION INERTIA OF A JET ENGINE COULD FAIL, AT MOST, ONE CORE COLUMN. SINCE THE ENGINES WERE, BY FAR, THE DENSEST COMPONENTS, ON WHAT BASIS DOES NIST CONCLUDE THAT MORE THAN TWO CORE COLUMNS COULD HAVE FAILED?	
	EXEC. SUM	lxxv	1	E.7	WHICH PART OF THE COLLAPSE SEQUENCE WOULD NOT HAVE OCCURRED UNDER THE "LESS SEVERE DAMAGE" CASE?	
	EXEC. SUM	lxxxvii	11	E.7.2	WHICH AIRCRAFT COMPONENTS, OTHER THAN THE ENGINES, FAILED CORE COLUMNS IN SIMULATIONS?	
NIST NCSTAR 1-3		1	4	1.3	WHERE IS A COPY AVAILABLE OF THE 2001 RISK ASSESSMENT REPORT PREPARED FOR SILVERSTEIN PROPERTIES?	
		1	5	4	1.3	WHY DID BOEING NOT SUPPLY A SUITABLE MODEL OF A 767?
	EXEC. SUM	xliv	3	E.6	WHY WAS NO STEEL RECOVERED FROM WTC7?	
NIST NCSTAR 1-4		3	23	2	3.5.1	DOES NIST BELIEVE THAT BLDG 7 WAS INSUFFICIENTLY SPRINKLERED, OR THAT THE SPRINKLER SYSTEM WAS IN ANY WAY COMPROMISED?
		3	31	1	3.7	DOES NIST BELIEVE THAT BLDG 7 WAS INSUFFICIENTLY SPRINKLERED, OR THAT THE SPRINKLER SYSTEM WAS IN ANY WAY COMPROMISED?
		3	31	3, 4	3.7	IS THERE ANY EVIDENCE TO SUGGEST EITHER A LOSS OF POWER TO THE FIRE PUMP OR SIGNIFICANT DAMAGE TO THE UNDERGROUND CITY MAIN?
		3	35	3	3.9.2	WERE THE OBSERVED FIRES WITHIN BLDG 7 WITHIN THE ESTIMATED CAPACITY OF THE SPRINKLER CONTROL SYSTEM?
		3	36	2	3.9.2	WERE THE OBSERVED FIRES WITHIN BLDG 7 WITHIN THE ESTIMATED CAPACITY OF THE SPRINKLER CONTROL SYSTEM?
		3	37	1	3.9.2	WERE THE OBSERVED FIRES WITHIN BLDG 7 WITHIN THE ESTIMATED CAPACITY OF THE SPRINKLER CONTROL SYSTEM?
		3	39	3-8	3.10	WITH ONLY ONE OF THREE RISERS COMPROMISED IN WTC2, WHY WAS THE SPRINKLER SYSTEM IN EFFECTIVE?
		3	40	3	3.10	WHO CLAIMED THAT THERE WAS NO WATER IN THE STANDPIPES OF BLDG 7 AND HOW WAS THIS DETERMINED?
		3	40	3	3.10	WHO MADE THE DECISION NOT TO FIGHT THE BLDG 7 FIRE AND WHY?
		3	41	1	3.11	IS THERE ANY EVIDENCE THAT THE CITY WATER SUPPLY WAS INTERRUPTED?
		4	66	4	4.5.2	WHO IS WILLIAMS, WHAT WAS HIS AUTHORITY, AND WHY WAS THE FIRE DETECTION SYSTEM PLACED ON TEST FOR THE SEVEN DAYS PRECEDING THE COLLAPSE?
		6	93	4		WHY WAS THE ACTIVE FIRE PROTECTION SYSTEM USED IN WTC7 "UNABLE TO PERFORM AS DESIGNED... DUE TO THE SEVERITY OF THE DAMAGE AND SIZE OF THE FIRES?"

NIST NCSTAR 1-5						
2	9	2-1	2.2.1	WHAT WAS THE "BRIGHT FLASH AT FRONT OF PLANE" AT TIME 0.03 SECONDS?		
2	15	2	2.2.4	WHAT WAS THE "PRESSURE PULSE" TRANSMITTED TO WTC1 FROM THE COLLAPSING WTC2?		
2	15	2	2.2.4	WHY DID THIS CAUSE FIRE AND SMOKE TO BE PUSHED OUT OF THE SOUTH FACE OF WTC1?		
2	15	2	2.2.4	WHAT EVIDENCE SHOWS THIS EVENT?		
2	15	2	2.2.4	WHY WOULD THE PRESSURE PULSE CAUSE FLAMES TO PUSH OUT OF THE 98TH FLOOR (AND NOT OTHERS)?		
2	15	3	2.2.4	WHAT WAS THE CAUSE OF THE FLARING AND BRIGHTENING OF FIRES IN WTC1 AT TIME OF WTC2 COLLAPSE?		
2	17	1	2.2.4	WHAT CAUSED THE BRIGHT FLAMES TO BE EXPELLED FROM THE SOUTHERN SIDE OF THE 98TH FLOOR OF WTC1 3 SECONDS PRIOR TO COLLAPSE?		
2	22	2-2	2.3.1	WHAT IS THE ORANGE FLASH SEEN AT 0.03 SECONDS AND THE LARGE OBJECT AT 0.50 SECONDS?		
2	23	2-5	2.3.1	WHAT IS THE FIGURE AT THE RIGHT SIDE OF THE IMAGE NEAR THE TOP OF THE WOOLWORTH BLDG.?		
2	28	7	2.3.5	WHAT WAS ONE (OR BOTH) OF THESE THE LARGE OBJECT FROM TABLE 2.2 AT 0.50 SECONDS?		
2	31	3	2.3.7	WHAT CAUSED THE "PUFFS OF SMOKE" OBSERVED ON THE 79TH, 80TH, AND 81ST FLOORS?		
2	32	3	2.3.7	WHAT CAUSED THE "PUFFS OF SMOKE" OBSERVED ON THE 79TH, 80TH, AND 81ST FLOORS?		
2	34	2.3	2.3.7	WHAT CAUSED THE "PUFFS OF SMOKE" OBSERVED ON THE 79TH, 80TH, AND 81ST FLOORS?		
3	49	3	3.1.4	SINCE ONLY 2% OF COMBUSTIBLES WOULD HAVE BURNED ON OXYGEN-CONTROLLED FLOORS, CAN FIRE FLOORS WITH INTACT WINDOWS BE ASSUMED TO HAVE NOT CONTRIBUTED TO THE COLLAPSE?		
3	50	3	3.2.1	HOW DOES THE FINDING THAT OFFICE FURNISHINGS CAN SUSTAIN INTENSE FIRES OF AT LEAST AN HOUR'S DURATION COMPARE TO TABLE 3.5 WHICH SHOWS A MAXIMUM TIME TO PEAK OF UNDER 10 MINUTES?		
6	180	1	6.15	WOULD APPLICATION OF THE FIRE SCENARIOS IN CASES 'A' AND 'C' HAVE LED TO COLLAPSE?		
NIST NCSTAR 1-6						
EXEC. SUM		4.5	E.5.2	HAVE ANY FIRE RESISTANCE TESTS SUPPORTED THE THEORY THAT THE WTC FLOOR ASSEMBLIES WOULD HAVE FAILED DUE TO COMPROMISED SFRR?		
4	71	1	4.2.2	WHAT EXPLAINS THE DIFFERENCE BETWEEN THE FEA MODEL AND THE FIRE RESISTANCE TESTS, ESPECIALLY WITH REGARD TO THE TRUSSES "WALKING OFF" OF THE SEATS?		
4	89	10	4.2.5	WHAT EXPLAINS THE DIFFERENCE BETWEEN THE FEA MODEL AND OTHER TESTS WITH REGARD TO KNUCKLE FAILURE?		
5	121	2	5.1	WHICH KEY OBSERVABLES ARE INCONSISTENT WITH THE LESS SEVERE CASE?		
5	129	2	5.2.3	WHY IS THE ADHESION/COHESION VALUE OF 12 PSI USED IN SIMULATION INSTEAD OF 185 PSI AND 367 PSI AS LISTED IN TABLE 2.4?		
5	146	1	5.5	HOW WAS THE IMPACT SPEED OF THE PLANE THAT HIT THE PENTAGON DETERMINED?		
6	154	6-1	6.2.1	WHAT WAS THE TOTAL TIME OF COLLAPSE OF WTC1?		
6	167	6-2	6.2.1	WHAT WAS THE TOTAL TIME OF COLLAPSE OF WTC2?		
7	192	1	7.3.1	WHY WAS THE TENSILE YIELD STRENGTH OF THE CONCRETE MATERIAL MATCHED TO THE COMPRESSIVE YIELD STRENGTH?		
9	275	4	9.1	WHERE IS THE EXPLANATION GIVEN AS TO WHY WTC1 TOOK LONGER TO COLLAPSE THAN WTC2?		
9	275	5	9.1	WHERE IS THE EXPLANATION GIVEN AS TO WHAT FACTORS COULD HAVE DELAYED THE COLLAPSE?		
9	310	5	9.4.1	SINCE WTC2'S CORE WAS LESS AFFECTED, WHY WAS ITS TIME TO COLLAPSE SHORTER?		
9	312	1	9.4.3	OTHER THAN ASYMMETRIC DAMAGE, WHAT EXPLAINS WTC2'S SHORTER TIME TO COLLAPSE?		

INTERIM REPORT, CHAPTER 1			
6	1.2	What evidence shows that the sprinkler systems were significantly compromised in WTC 1, 2 & 7?	
9	1.2	(finding 1a.7) Why did the aviation unit believe at 10:06 am that WTC1 would soon collapse?	
17	1.3	What initiating event for bldg 7 has been identified and what evidence supports this conclusion?	
17	1.3	What times are found in simulation for vertical and horizontal progression failures in bldg 7?	
17	1.3	Should statement of complete steel collection (sec. 1.2 p 9) be revised?	
17	1.3	Why was no steel collected from building 7?	
18	1.3	(finding 1b.3) How extensive is the damage shown in photographic and videographic evidence of the south face and SW corner?	
18	1.3	(finding 1b.3) How reliable is the report of elevator cars being ejected?	
18	1.3	(finding 1b.4) What initiating event is suggested for the fires on floors 22, 29 & 30 before 2pm?	
18	1.3	(finding 1b.4) What initiating event is suggested for the fires on floors 11 & 12 around 2pm?	
18	1.3	(finding 1b.4) What initiating event is suggested for the fires on floor 7 around 3pm?	
18	1.3	(finding 1b.4) What initiating event is suggested for the fires on floors 8 & 13?	
18	1.3	(finding 1b.4) Who knew that there was no water in the standpipe system, how did he know this, and why was this the case?	
19	1.3	(finding 1b.5) Who was the owner of the two 6,000-gal tanks supplying the fifth-floor generators and which was the environmental firm contracted to examine the fuel tanks?	
19	1.3	(finding 1b.5) Who reported that the fuel tanks were full and on what basis?	
27	1.4	What accounts for the difference in fire suppression response between the fire of 2-14-05 and the fire of 9-11-01 in WTC1?	
28	1.4	(finding 2.23) What evidence shows that the water sprinkler system was compromised?	
28	1.4	Who placed the building fire alarm in WTC7 on "test" at 6:47 am on 9-11-01 and why?	
33	1.5	What results were found for the U.L. floor system tests?	
41	1.6	What technical solutions is NIST recommending?	
INTERIM REPORT, CHAPTER 2			
50	2.2.2	(task 3) What information was found regarding the fire protection systems operating procedures, and maintenance history of the WTC7 fuel system?	
64	2.2.5	(table 2-2 #7) Were the sprinkler systems in WTC 1, 2 & 7 in any way sub-optimal prior to aircraft impact?	
66,67	2.2.6	What evidence shows whether the shut-off system for the transfer pump was activated?	
67	2.2.6	Is there any evidence that power failure activated the emergency generators, thus pressurizing the fuel lines?	
93	2.5.4	(see sec. 1.2 p 6)	
93	2.5.5	Why was no specific fire information sent to the monitoring site?	
94	2.5.5	Who was the bldg manager and why did he place the fire alarm system in a "TEST: ALL" condition at 6:47 am on 9/11/01?	
94	2.5.5	Who was AFA operator "RIC" and what role did he play?	
94	2.5.5	Who was "Williams" and what authority did he have?	
94	2.5.5	Why was the system placed on test every day from 9-4-01 to 9-11-01?	
94	2.5.5	What triggered the fire condition indicator at 10:00:52 am in WTC7?	
96	2.5.6	Which utilities were in risers in the path of penetrating aircraft and which services were likely unaffected by impact?	
97	2.6.1	What progress has been made in identifying the source and location of fire ignition and the progression of the fire in WTC7?	
122	2.7.5	What are the results of the U.L. tests?	
123	2.7.6	What are the results of the WTC7 model analysis?	
124	2.7.6	Who reported elevator cars ejected from floors 8 or 9, at what time, and what are the details surrounding this event?	
124	2.7.6	What path of fire progression is speculated to have caused fire first to appear on floor 7 of WTC 7 at 3pm?	
124	2.7.6	What evidence suggests that fires on floor 5 ignited, received adequate ventilation, reached the fuel distribution system, and progressed vertically without being visually identified on floor 6?	
127	2.7.6	What analysis suggests that vertical supports would fail (in bending) before horizontal connections (in tension)?	

INTERIM REPORT, APPENDIX 1				
17	11,12	L.2.1	WHY DID THE EAST & WEST STAIRWELLS FILL WITH DUST & SMOKE AND LOSE LIGHTS JUST BEFORE THE COLLAPSE OF WTC1?	
17	13	L.2.1	WHY DID FLOORS 7 AND 8 LOSE POWER AND THE AIR BECOME UNCLEAR JUST BEFORE THE COLLAPSE OF WTC1?	
18	10	L.2.1	WHY WERE ELEVATOR CARS EJECTED FROM THEIR SHAFTS ON THE 8TH AND 9TH FLOORS AND WHO REPORTED THIS CONDITION?	
18	12	L.2.1	WHY WERE PEOPLE STILL IN THE BLDG ON FLOORS 7 AND 8 AT 12:10PM?	
18	13	L.2.1	WHAT WAS THE SOURCE OF THE DUST AND SMOKE ON FLOOR 8 AT 12:10PM?	
18	14	L.2.1	WHY WAS THERE A CUBICLE FIRE ON THE WEST WALL ON FLOOR 7 AT 12:10PM?	
18	15	L.2.1	WHY WAS NO HEAVY DEBRIS IN THE LOBBY IF THE ELEVATOR CARS WERE EJECTED NEARBY?	
22	5	L.2.2	HOW WAS THE FIRE DETECTED ON FLOOR 23 FROM FLOOR 22?	
27	L-1	L.2.3	WHAT WAS THE ESTIMATED TIME OF COLLAPSE OF BLDG 7?	
30	3	L.2.4	HOW COULD THE BREAKING OF A BOTTOM WINDOW AND THE SIMULTANEOUS KINKING IN THE EAST PENTHOUSE BE THE RESULT OF A SINGLE INITIATING EVENT?	
30	6	L.2.4	WHAT INITIATING EVENTS COULD HAVE LED TO COLUMN FAILURE?	
33	2	L.2.5	BY WHAT MECHANISM DID BLDG 7 COLLAPSE "FROM BELOW THE VISIBLE AREA" AND AT THE PENTHOUSE WITHOUT VISIBLE COLLAPSE TAKING PLACE IN BETWEEN?	
35	2-34	L.3.1	WHY DID CONNECTIONS NOT FAIL IN TENSION TO PREVENT "HORIZONTAL PROGRESSION"?	
36	6	L.3.2	WHY DID DEBRIS DAMAGE SEVER INTERIOR COLUMNS AND NOT EXTERIOR COLUMNS?	
38	5	L.3.2	WHY WOULD "THERMAL CONTRACTION FORCES" NOT HAVE SIMPLY SHIFTED LOADS BACK TO THEIR ORIGINAL VECTORS?	
39	4	L.3.2	WOULD THE "COVER PLATE WELD... BEGIN TO YIELD AT A MEAN TEMPERATURE OF 490C" WITH UNCOMPROMISED FIRE PROTECTION?	
41	2	L.3.3	DID THE "COLLAPSE MECHANISM MODEL" THAT DISPLAYED THE "KINEMATICS OF THE COLLAPSE MECHANISM" SHOW A HORIZONTAL PROGRESSION?	
45	1	L.3.3	WHY WAS THE LINE OF BROKEN WINDOWS NOT OBSERVED PROGRESSING UP FROM LOWER FLOORS?	
47		L-46	HOW WELL DO SCENARIOS H2.2, H2.5, AND H2.7 AGREE WITH THE KINEMATIC MODEL?	
51	6	L.3.5	TO WHICH PRECEDENTS OF "CLASSIC PROGRESSIVE COLLAPSE" DOES NIST COMPARE THE WORKING HYPOTHESIS OF THE BLDG 7 FAILURE?	
52	2	L.3.6	WHICH "SCENARIOS THAT ARE NOT PREDICTED TO MATCH THE OBSERVED DATA" WILL NIST BE TESTING?	